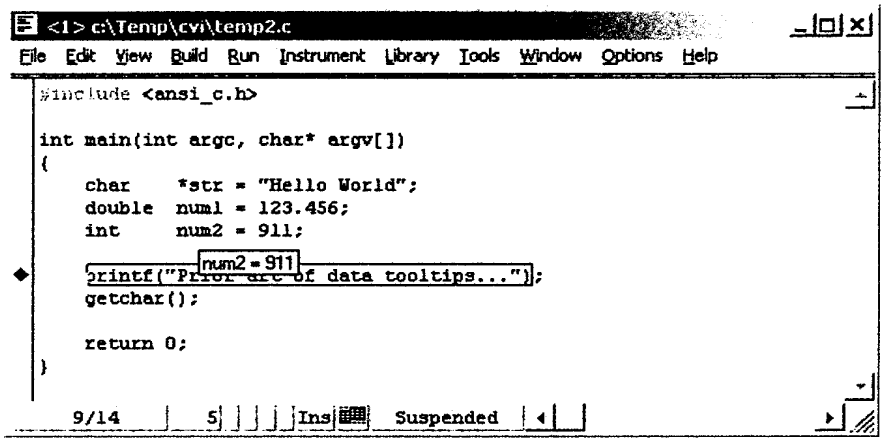


Fig. 1A (Prior Art)

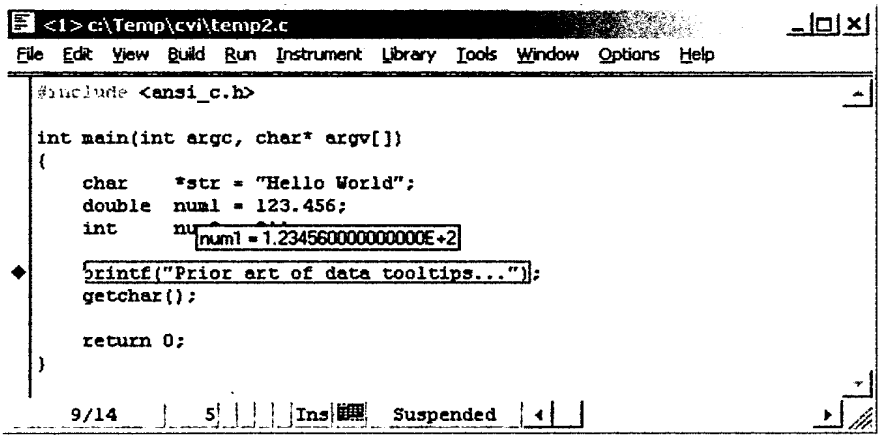


Fig. 1B (Prior Art)

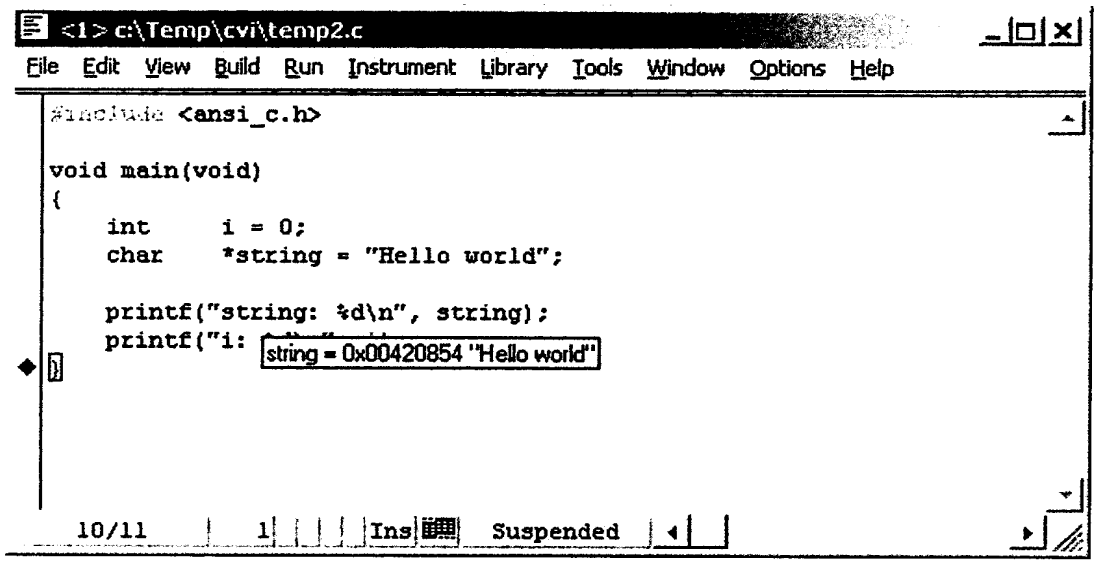


Fig. 1C (Prior Art)

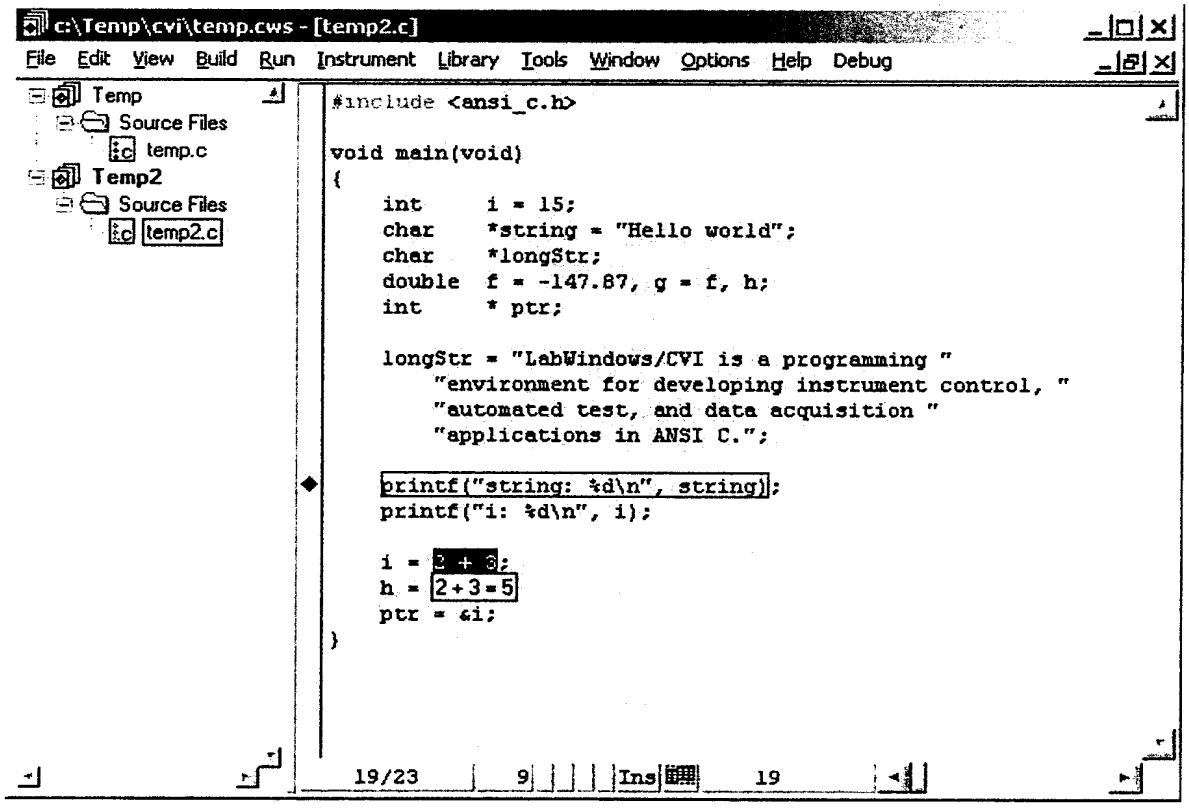


Fig. 1D (Prior Art)

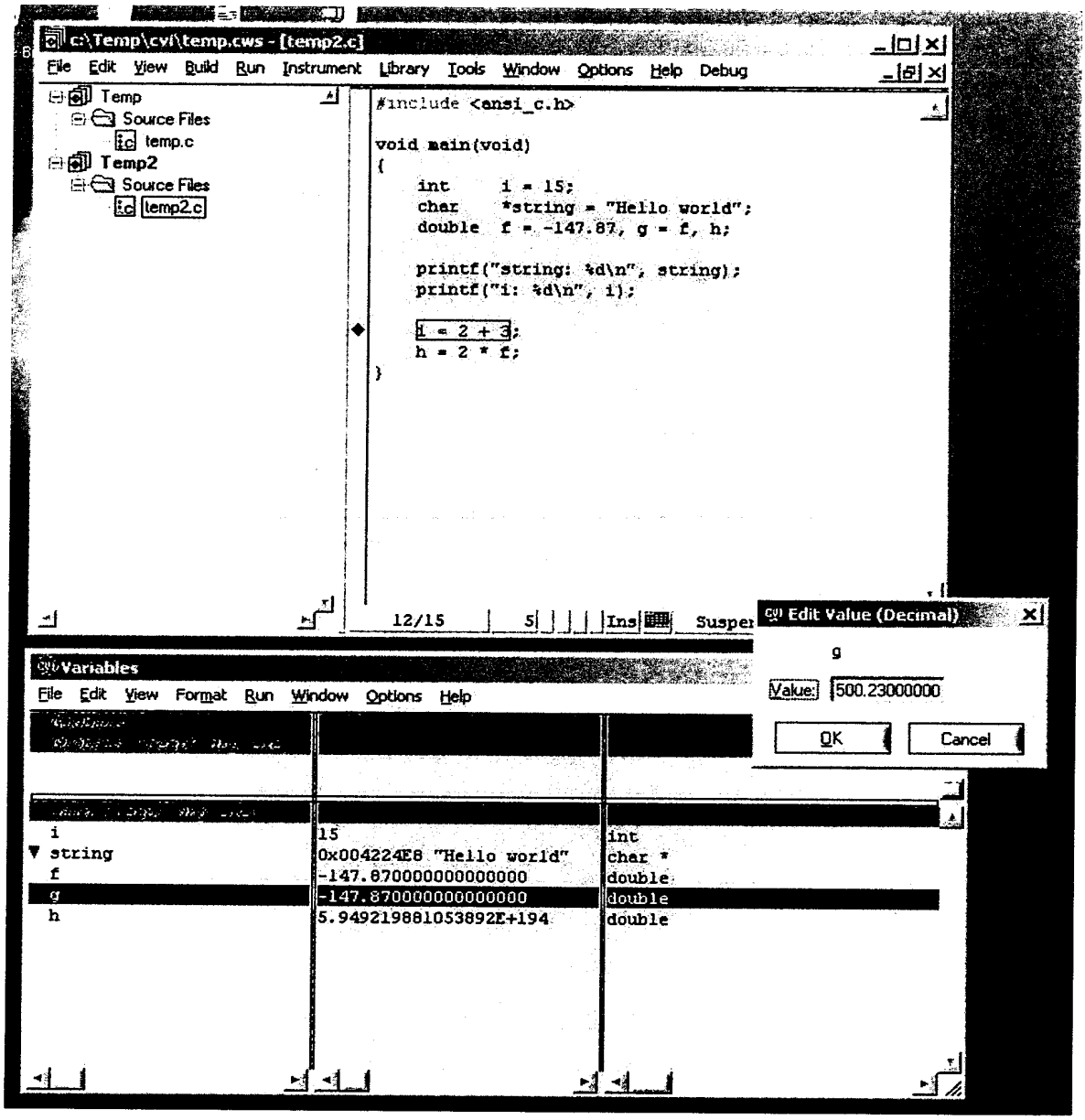
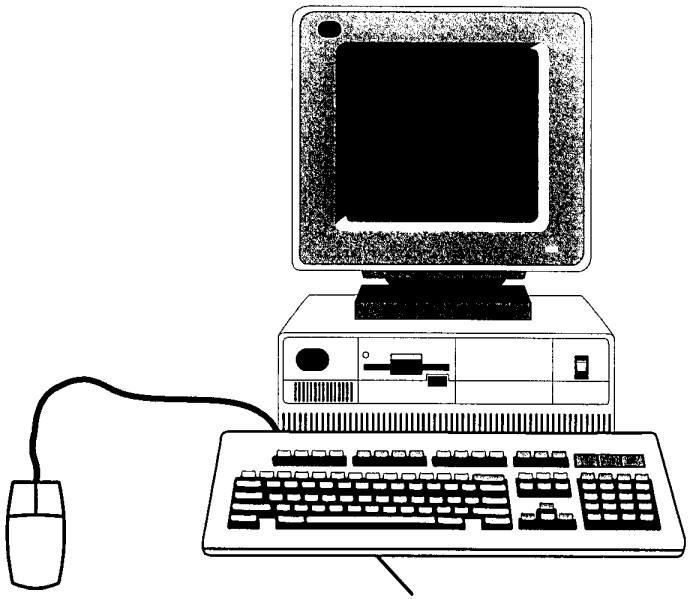


Fig. 1E (Prior Art)



Computer System
82

Figure 2A

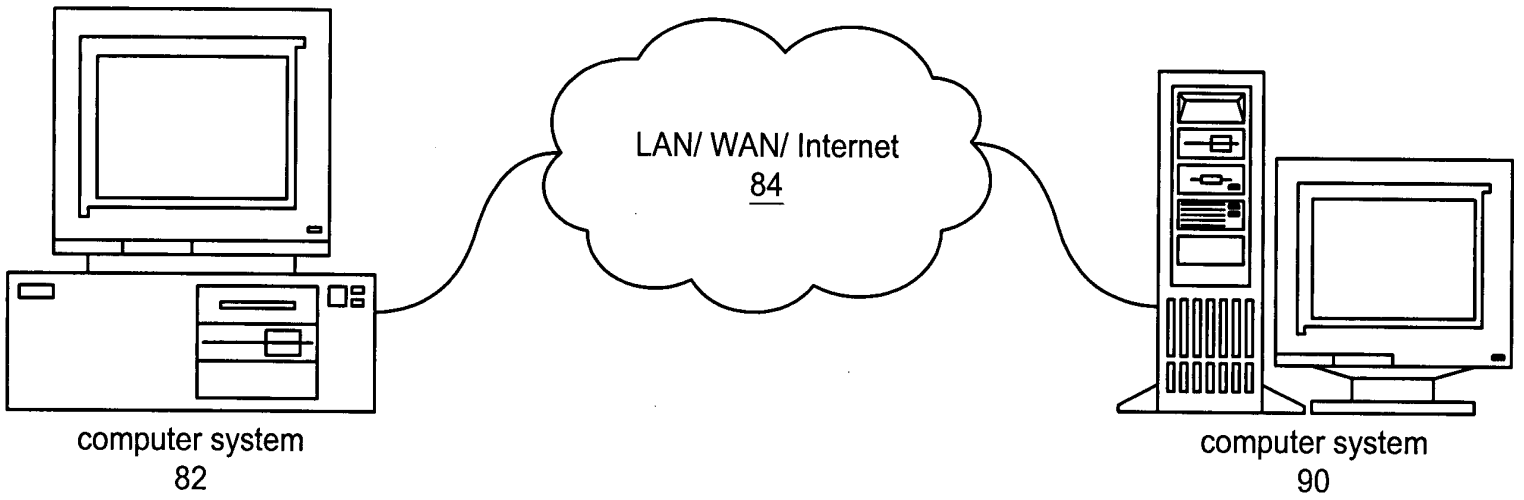


Figure 2B

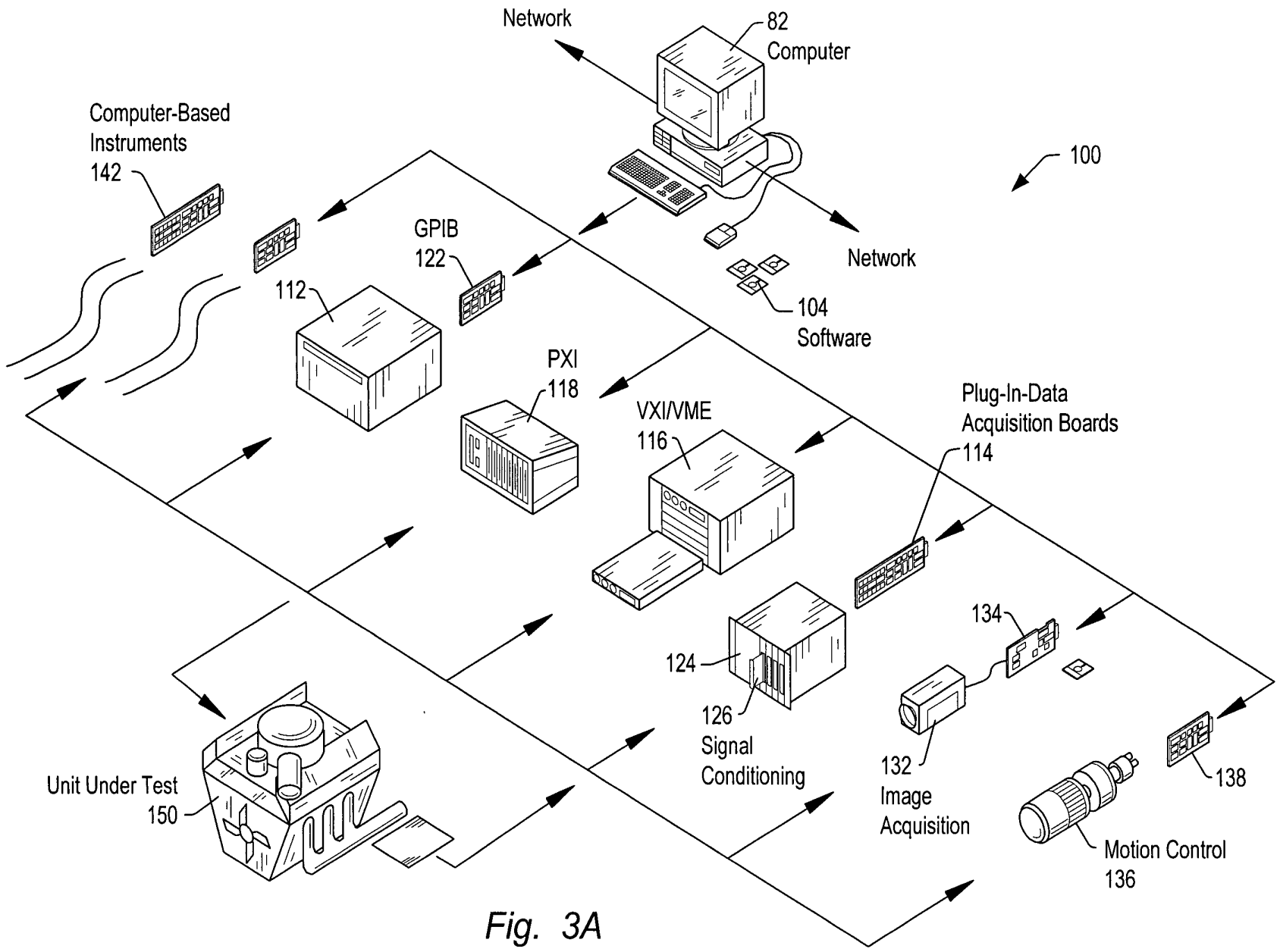

Network
82
Computer
Computer-Based
Instruments
142
100
GPIB
122
112
Network
104
Software
PXI
118
VXI/VME
116
Plug-In-Data
Acquisition Boards
114
134
124
126
Signal
Conditioning
132
Image
Acquisition
138
Unit Under Test
150
Motion Control
136

Fig. 3A

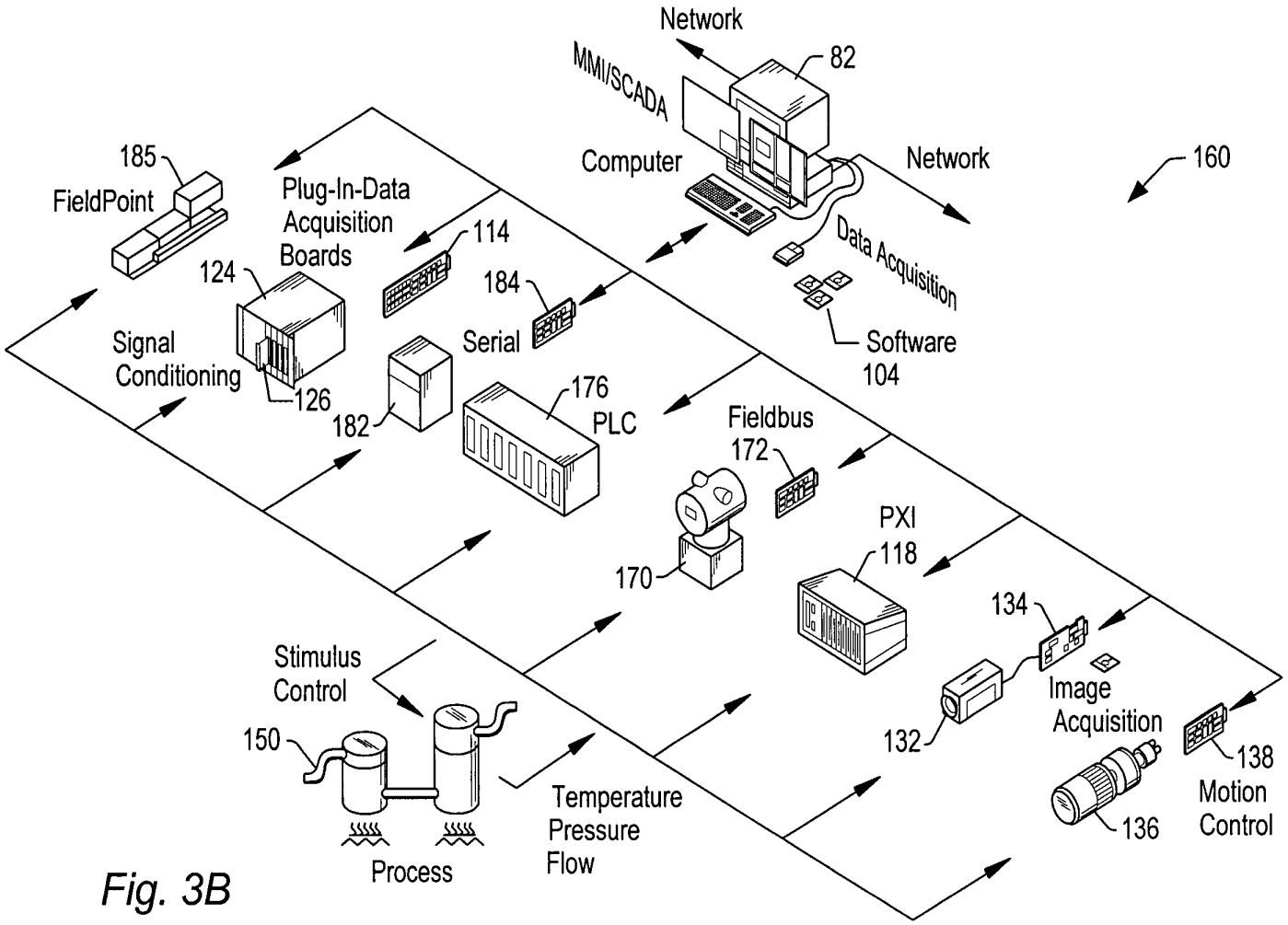

Network
82
MMI/SCADA
Computer
Network
160
185
FieldPoint
Plug-In-Data
Acquisition
Boards
114
124
184
Data Acquisition
Software
104
Signal
Conditioning
126
182
Serial
176
PLC
Fieldbus
172
170
PXI
118
134
Stimulus
Control
150
Image
Acquisition
132
138
Motion
Control
136
Temperature
Pressure
Flow
Process

Fig. 3B

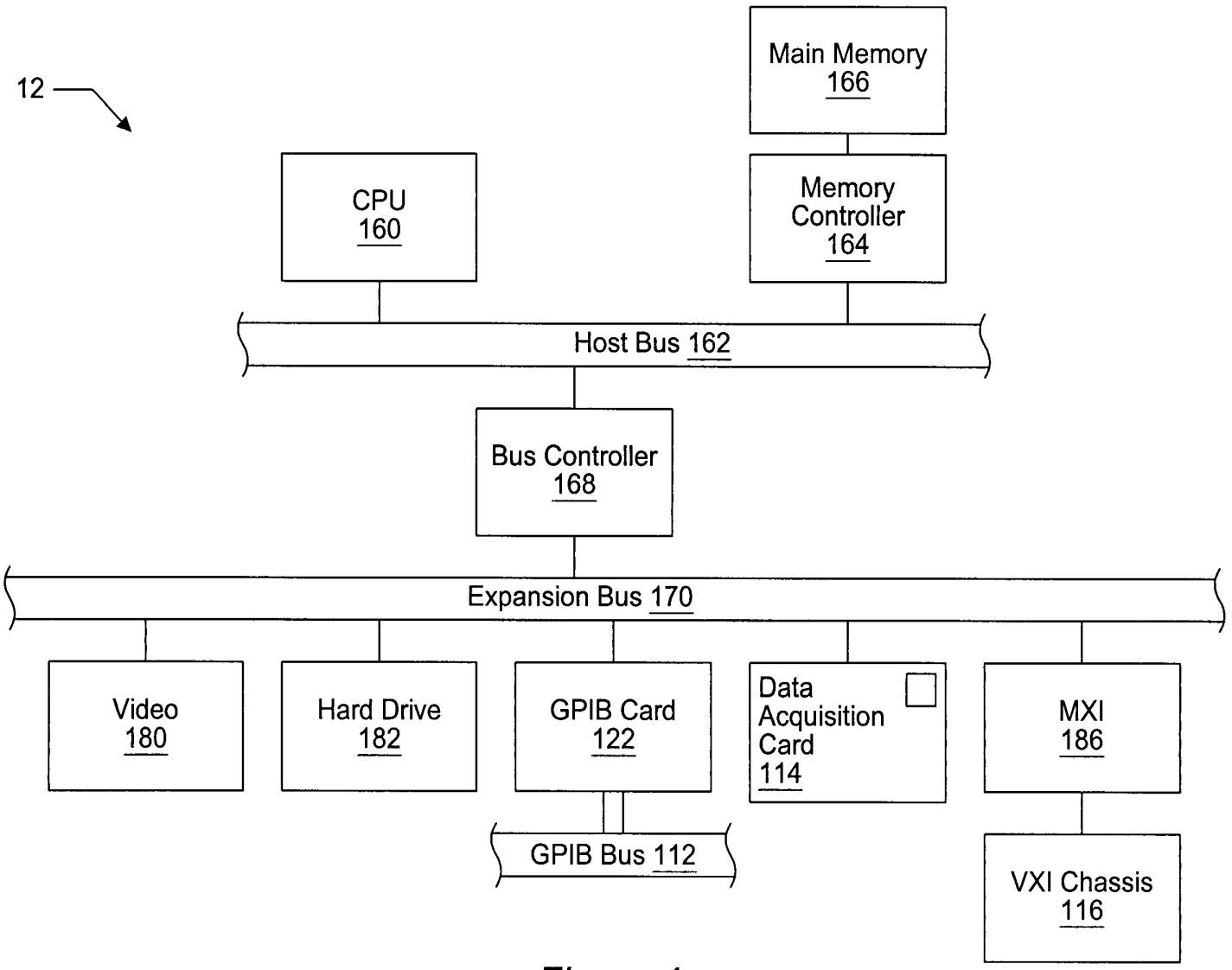

12
Main Memory
166
CPU
160
Memory
Controller
164
Host Bus 162
Bus Controller
168
Expansion Bus 170
Video
180
Hard Drive
182
GPIB Card
122
Data
Acquisition
Card
114
MXI
186
GPIB Bus 112
VXI Chassis
116

Figure 4

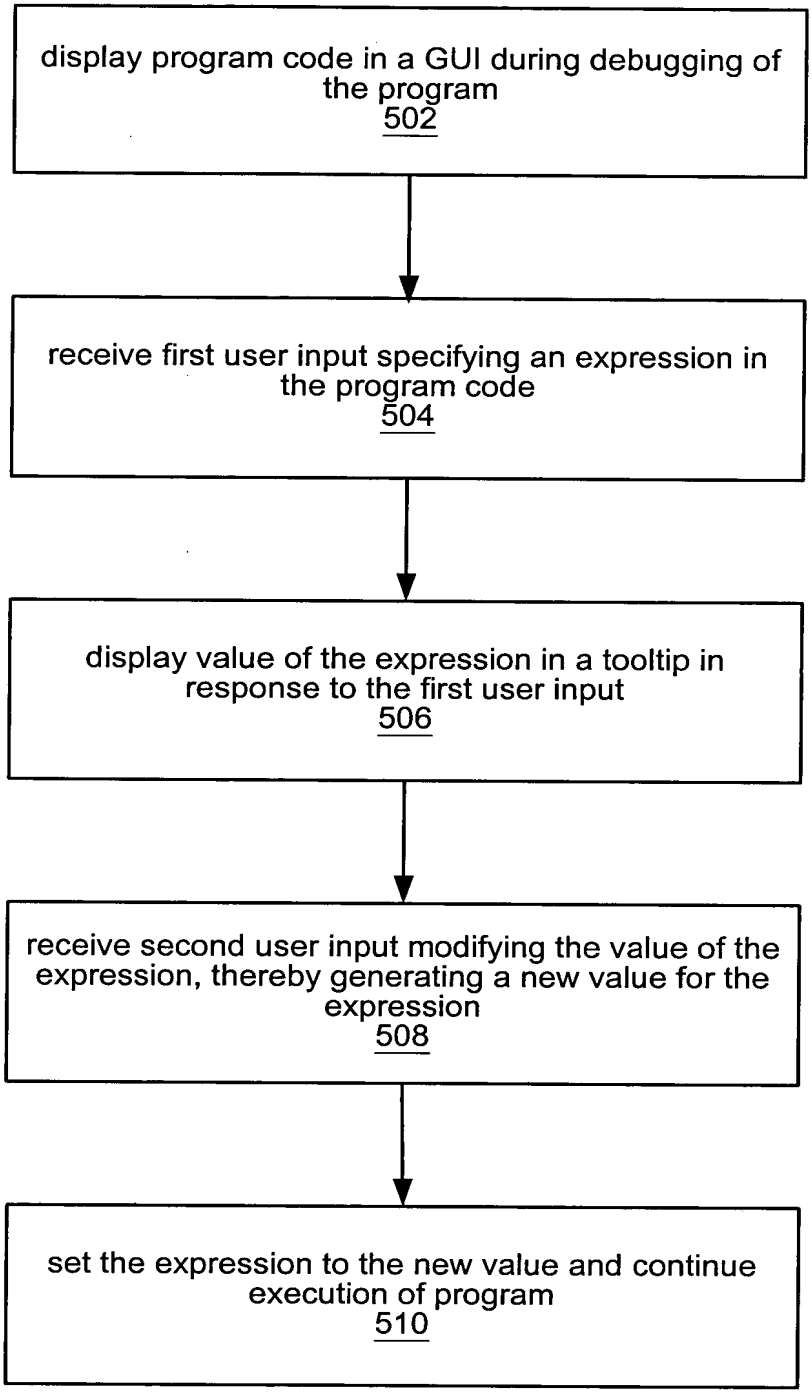

display program code in a GUI during debugging of the program
502
receive first user input specifying an expression in the program code
504
display value of the expression in a tooltip in response to the first user input
506
receive second user input modifying the value of the expression, thereby generating a new value for the expression
508
set the expression to the new value and continue execution of program
510

Fig. 5

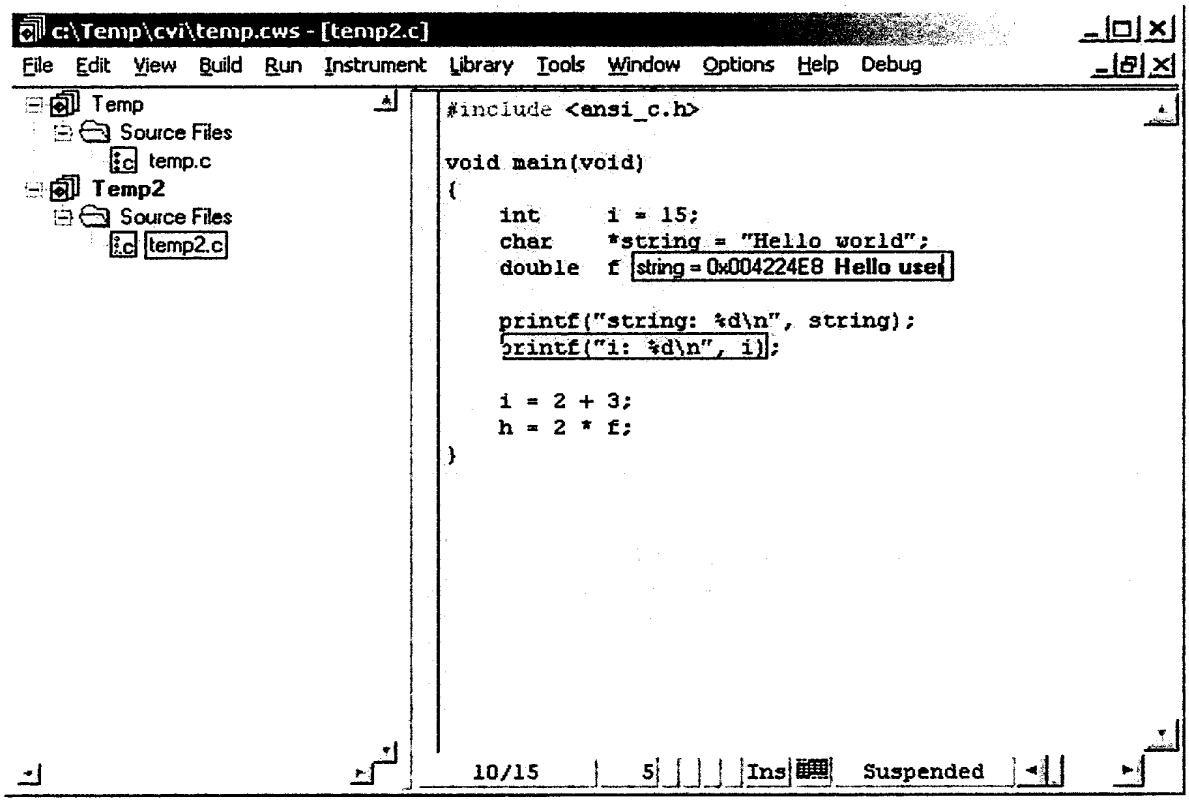

c:\Temp\cvi\temp.cws - [temp2.c]
File Edit View Build Run Instrument Library Tools Window Options Help Debug
Temp
Source Files
temp.c
Temp2
Source Files
temp2.c
#include <ansi_c.h>
void main(void)
{
int i = 15;
char *string = "Hello world";
double f string = 0x004224E8 Hello use
printf("string: %d\n", string);
printf("i: %d\n", i);
i = 2 + 3;
h = 2 * f;
}
10/15
5
Ins
Suspended

Fig. 6A

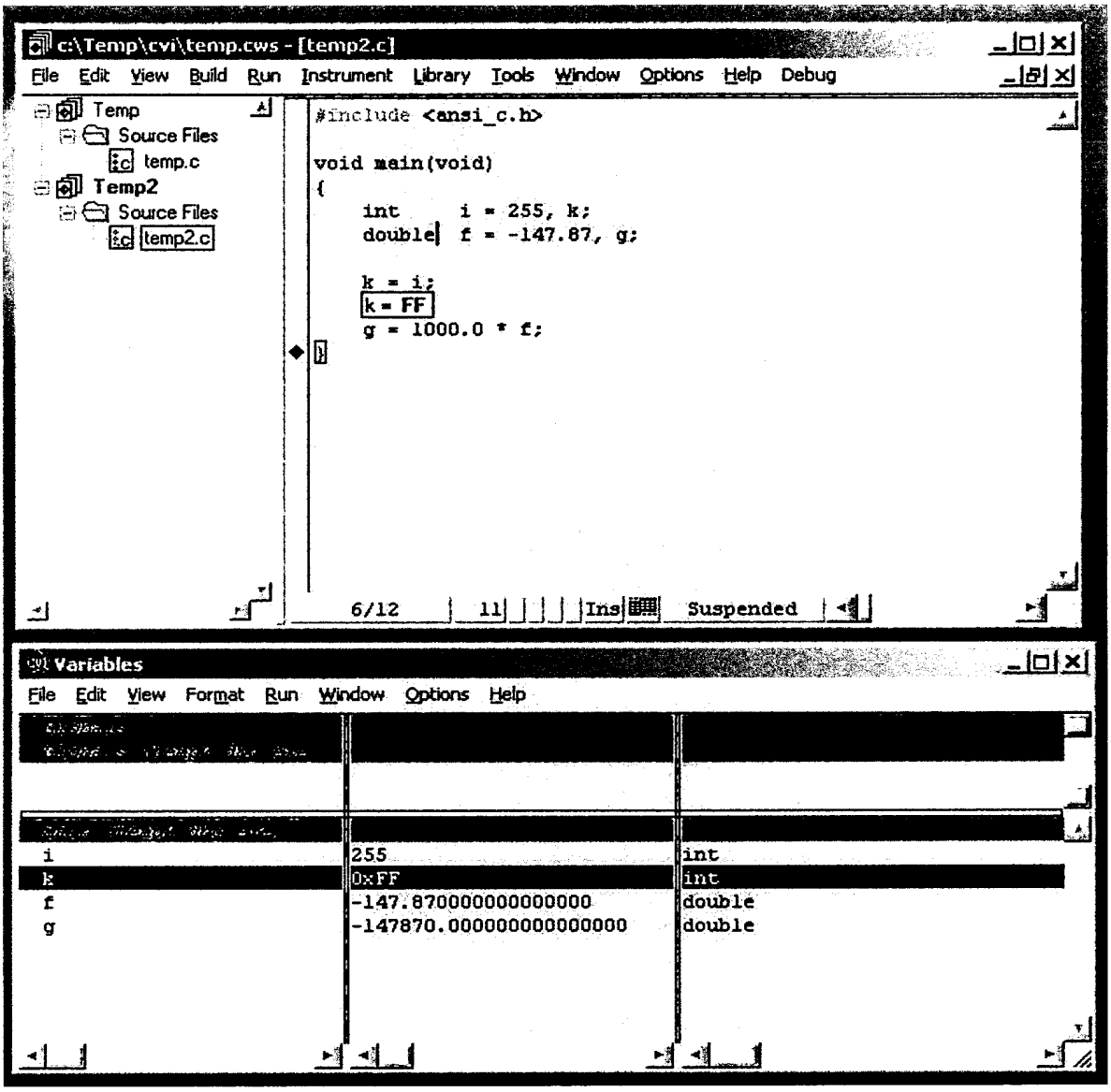

c:\Temp\cvi\temp.cws - [temp2.c]
File Edit View Build Run Instrument Library Tools Window Options Help Debug
Temp
Source Files
temp.c
Temp2
Source Files
temp2.c
#include <ansi_c.h>
void main(void)
{
int i = 255, k;
double f = -147.87, g;
k = i;
k = FF
g = 1000.0 * f;
}
6/12
11
Ins
Suspended
Variables
File Edit View Format Run Window Options Help
i 255 int
k 0xFF int
f -147.870000000000000 double
g -147870.000000000000000 double

Fig. 6B

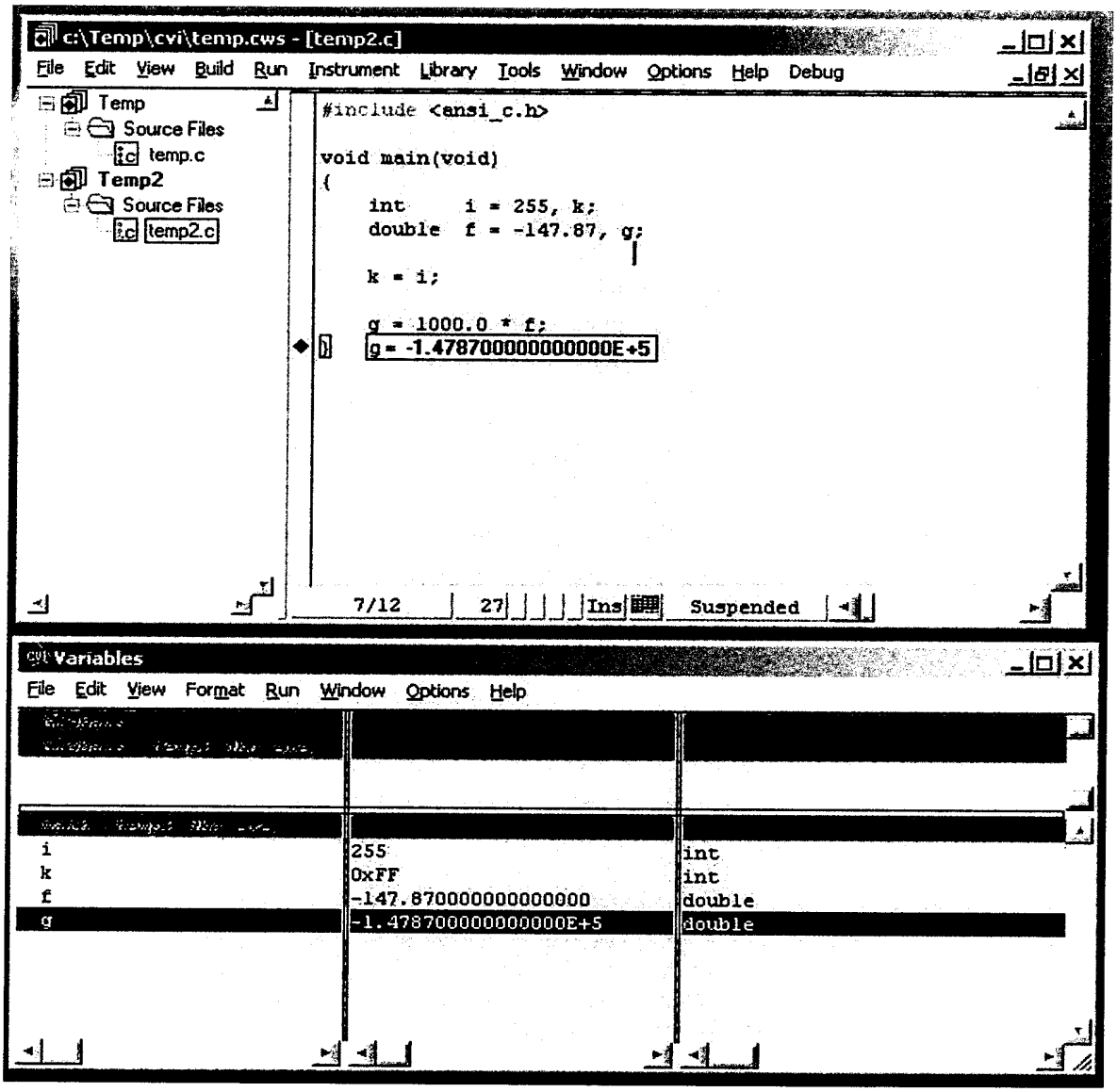

c:\Temp\cvi\temp.cws - [temp2.c]
File Edit View Build Run Instrument Library Tools Window Options Help Debug
Temp
Source Files
temp.c
Temp2
Source Files
temp2.c
#include <ansi_c.h>
void main(void)
{
int i = 255, k;
double f = -147.87, g;
k = i;
g = 1000.0 * f;
g = -1.4787000000000000E+5
7/12
27
Ins
Suspended
Variables
File Edit View Format Run Window Options Help
i 255 int
k 0xFF int
f -147.870000000000000 double
g -1.4787000000000000E+5 double

Fig. 6C